

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Cancelled)

2. (Original) An audio device comprising:

a correction circuit having given transfer functions, which audio device supplies, through said correction circuit, right- and left-channel input audio signals on which head related transfer functions are superimposed, to right- and left-channel speakers located in front of a hearing position of a listener in a reproduction sound field space, wherein

said correction circuit includes first to fourth operator circuits, and first and second adder circuits, and correction transfer functions obtained by an inverse matrix of a two-row and two-column matrix of which the elements are the following first to fourth transfer functions are implanted in said first to third operator circuits;

said first transfer function is obtained from a third impulse response series, which is extracted from a second impulse response series of a first impulse response series, which said second impulse response series is featured by a sound field characteristic from a left-channel speaker to the listener when said left-channel speaker is disposed in an anechoic room as a model of a component layout in said reproduction sound field space, said first impulse response series being featured by a sound field characteristic of a space ranging from a left-channel speaker to

the left ear of the listener when said left-channel speaker is disposed in said reproduction sound field space,

said second transfer function is obtained from a sixth impulse response series, which is extracted from a fifth impulse response series of a fourth impulse response series, which said fifth impulse response series is featured by a sound field characteristic of a space ranging from a left-channel speaker to the right ear of the listener when said left-channel speaker is disposed in an anechoic room as a model of a component layout in said reproduction sound field space, said fourth impulse response series being featured by a sound field characteristic of a space ranging from a left-channel speaker to the right ear of the listener when said left-channel speaker is disposed in said reproduction sound field space,

said third transfer function is obtained from a ninth impulse response series, which is extracted from an eighth impulse response series of a seventh impulse response series, which said eighth impulse response series is featured by a sound field characteristic of a space ranging from a right-channel speaker to the left ear of the listener when said left-channel speaker is disposed in an anechoic room as a model of a component layout in said reproduction sound field space, said seventh response series being featured by a sound field characteristic of a space ranging from a right-channel speaker to the left ear of the listener when said right-channel speaker is disposed in said reproduction sound field space, and

said fourth transfer function is obtained from a 12th impulse response series, which is extracted from an 11th impulse response series of a 10th impulse response series, which said 11th impulse response series is featured by a sound field characteristic of a space ranging from a right-channel speaker to the right ear of the listener when said right-channel speaker is disposed

in an anechoic room as a model of a component layout in said reproduction sound field space, said 10th response series being featured by a sound field characteristic of a space ranging from a right-channel speaker to the right ear of the listener when said right-channel speaker is disposed in said reproduction sound field space, and

said first adder circuit adds together output signals of said first and third operator circuits when said left-channel input audio signal is input to said first operator circuit, and said right-channel input audio signal is input to said third operator circuit, and

said second adder circuit adds together output signals of said second and fourth operator circuits when said left-channel input audio signal is input to said second operator circuit, and said right-channel input audio signal is input to said fourth operator circuit.

3. (Original) The audio device according to claim 2, wherein

said third impulse response series is extracted from a part of said first impulse response series within a period of time taken for a damping amplitude of said second impulse response series decreases to approximately 0 (zero),

said sixth impulse response series is extracted from a part of said fourth impulse response series within a period of time taken for a damping amplitude of said fifth impulse response series decreases to approximately 0 (zero),

said ninth impulse response series is extracted from a part of said seventh impulse response series within a period of time taken for a damping amplitude of said eighth impulse response series decreases to approximately 0 (zero), and

said 12th impulse response series is extracted from a part of said 10th impulse response

series within a period of time taken for a damping amplitude of said 11th impulse response series decreases to approximately 0 (zero).

4. (Original) The audio device according to claim 2, wherein
said third impulse response series is extracted by a window function in which said first impulse response series is featured by an envelop of said second impulse response series,
said sixth impulse response series is extracted by a window function in which said fourth impulse response series is featured by an envelop of said fifth impulse response series,
said ninth impulse response series is extracted by a window function in which said seventh impulse response series is featured by an envelop of said eighth impulse response series,
and
said 12th impulse response series is extracted by a window function in which said 10th impulse response series is featured by an envelop of said 11th impulse response series.

5. (canceled).